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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,143	01/08/2004	Yung Yip	10426US01	9649

7590 10/19/2007  
Attention: Eric D. Levinson  
Imation Corp  
Legal Affairs  
P.O. Box 64898  
St. Paul, MN 55164-0898

EXAMINER
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CASTRO, ANGEL A

ART UNIT	PAPER NUMBER
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2627

MAIL DATE	DELIVERY MODE
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10/19/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/755,143	Applicant(s) YIP, YUNG	
	Examiner Angel A. Castro	Art Unit 2627	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12, 21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

This Office Action is in response to Amendment filed 7/19/07.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 8-9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwarz (U.S. Pat. 5,541,793).

Regarding claim 1, Schwarz discloses a system for reading and writing information to magnetic media (figures 9 or 11) comprising:

an array of write heads 488, 502 arranged in a two-dimensional matrix, wherein each of the write heads defines a write channel for the system as the magnetic media moves in a direction of motion relative to the array of write heads; and

an array of magnetoresistive (MR) heads 486, 504, wherein each of the MR heads defines a read channel for the system, and wherein each of the write heads in the two dimensional matrix corresponds to one of the MR heads of the array of MR heads such that

each of the write channels corresponds to one of the read channels as the magnetic media moves in the direction of motion.

Regarding claim 3, Schwarz discloses that each of the write heads is substantially aligned with a corresponding one of the read heads such that each of the write channels substantially aligns with a corresponding one of the read channels.

Regarding claim 8, Schwarz discloses that a number of write heads in the array of write heads is the same as a number of MR heads in array of read heads.

Regarding claim 9, Schwarz discloses that each of the write heads and each of the MR heads are independently controllable (column 8, lines 29-32).

Regarding claim 12, Schwarz discloses an additional head that functions as a read element that reads pre-written servo marks (column 9, lines 26-30).

3. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozue et al (Patent Application Publication No. (U.S. Patent Application Publication 2004/0021982).

Regarding claim 1, Ozue et al discloses a system for reading and writing information to magnetic media (figure 14 or 15) comprising:

an array of write heads 28 arranged in a two-dimensional matrix, wherein each of the write heads defines a write channel for the system as the magnetic media moves in a direction of motion relative to the array of write heads; and

an array of magnetoresistive (MR) heads 46, wherein each of the MR heads defines a read channel for the system, and wherein each of the write heads in the two dimensional matrix corresponds to one of the MR heads of the array of MR heads such that each of the write

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channels corresponds to one of the read channels as the magnetic media moves in the direction of motion.

Regarding claim 2, Ozue shows that the array of MR heads comprises a linear array of MR heads and the array of write heads comprises a planar array of write heads (see figures 14-15).

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz in view of Nagata et al.

Regarding claims 4-7 and 12, Schwarz discloses the system described above. Schwarz differs in not: (A) utilizing GMR type read head (re claim 7), (B) specifying the listed track spacing (re claims 4-6).

Concerning (A), it is very well known and common to utilize GMR type heads for reading. Nagata et al shows this in the environment of a plural track system with separate read and write heads.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize GMR type heads for the read heads in Schwarz. The motivation is as follows: these are commonly used for read heads.

Concerning (B), it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the system of Schwarz to have the listed spacing. The motivation is as follows: this would have been the obvious result of routine experimentation and optimization.

6. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz in view of Nozieres et al.

Regarding claims 10-11, Schwarz does not specify the listed controller details.

Nozieres et al teaches individually controlling each write head in a plural head environment.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the teaching of Nozieres et al to Schwarz. The motivation is as follows: one of ordinary skill in the art uses any known control scheme.

### *Response to Arguments*

7. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Applicant asserts in pages 7-9 that figure 2 is a common genus. The Examiner disagrees and point out that there are 3 different species (not a common genus) as specified in the office action mailed 8/11/06. It was also specified that if claims are added after the

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election, applicant must indicate which are readable upon the elected species, in the present case claims 21-22 are not readable on the elected species.

*Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel A. Castro whose telephone number is 571-272-7584. The examiner can normally be reached on Monday through Thursday, 8 AM to 6 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Angel Castro